AVAPCD Regulation XIII - *New Source Review*
SIP Submittal Additional Documentation
Other Rules Referenced

Rule 1401 - *New Source Review of Carcinogenic Air Contaminants*

Please Note: This is the current rule as of 5/1/01. Amendments to this rule have been proposed and are currently undergoing public comment. A copy of this rule as ultimately amended will be forwarded upon its adoption.

(**Adopted**: 06/01/90; **Amended**: 12/07/90)

RULE 1401
New Source Review Of
Carcinogenic Air Contaminants

(a) Purpose

This rule specifies limits for maximum individual cancer risk and estimated excess cancer cases from new permit units, relocations, or modifications to existing permit units which emit carcinogenic air contaminants. The rule establishes allowable risks for all such permit units requiring new permits pursuant to Rules 201 or 203.

(b) Applicability

Applications for new, relocated, and modified permit units which were received by the District on or after June 1, 1990 shall be subject to Rule 1401. Permit units installed without a required permit to construct shall be subject to this rule, if the application for a permit to operate such equipment was submitted after June 1, 1990. The compounds listed in Table I will change periodically as new information becomes available. Applications shall be subject to the version of Rule 1401 that is in effect at the time the application is received.

(c) Definitions

(1) BEST AVAILABLE CONTROL TECHNOLOGY FOR TOXICS (T-BACT) means the most stringent emissions limitation or control technique which:

(A) has been achieved in practice for such permit unit category or class of source; or

(B) is any other emissions limitation or control technique, including process and equipment changes of basic and control equipment, found by the Executive Officer to be technologically feasible for such class or category of sources, or for a specific source.

(2) CARCINOGENIC AIR CONTAMINANT is a substance that has been shown to cause cancer in animals or humans. For the purpose of this rule, carcinogenic air contaminants are those listed in Table I.

(3) CONTEMPORANEOUS EMISSION REDUCTION means any real, permanent, and enforceable emission reduction that has occurred after the submittal of an application for a permit to construct, but before the start of operation of the permit unit associated with the application.

(4) EXCESS CANCER CASES means the estimated increase in the occurrence of cancer cases in a population subject to a lifetime (70 years) individual cancer risk of greater than or equal to one in one million (1×10^{-6}) resulting from exposure to carcinogenic air contaminants.

(5) MAXIMUM INDIVIDUAL CANCER RISK is the estimated probability of a potential maximally exposed individual contracting cancer as a result of exposure to carcinogenic air contaminants over a period of 70 years.

(6) MODIFICATION means any physical change in, change in method of operation of, or addition to an existing permit unit that requires an application for a permit to construct and/or operate. Routine maintenance and/or repair shall not be considered a physical change. A change in the method of operation of equipment, unless previously limited by an enforceable permit condition, shall not include:

(A) an increase in the production rate, unless such increase will cause the maximum design capacity of the equipment to be exceeded; or

(B) an increase in the hours of operation; or

(C) a change in ownership of a source.

(7) PERMIT UNIT means any article, machine, equipment, or other contrivance, or combination thereof, which may cause or control the issuance of air contaminants, and which requires a written permit pursuant to Rules 201 and/or 203. For publicly-owned sewage treatment operations each process within multi-process permit units at the facility shall be considered a separate permit unit for purposes of this rule.

(8) RECEPTOR LOCATION means any location outside the boundaries of the stationary source facility.

(9) RELOCATION means the removal of an existing permit unit from one location in the South Coast Air Quality Management District and installation at another location. The removal of a permit unit from one location within a stationary source and installation at another location within the stationary source is a relocation only if an increase in maximum individual cancer risk in excess of one in one million (1×10^{-6}) occurs at any receptor location.

(10) STATIONARY SOURCE means any permit unit or grouping of permit units or other air contaminant-emitting activities which are located on one or more contiguous properties within the District, in actual physical contact or separated solely by a public roadway or other public right-of-way, and are owned or operated by the same person (or by persons under common control). Such above-described groupings, if remotely located and connected only by land carrying a pipeline, shall not be considered one stationary source.

(11) ACCEPTABLE STACK HEIGHT for a permit unit is defined as a stack height that does not exceed two and one half times the height of the permit unit or two and one half times the height of the building housing the permit unit, and shall not be greater than 65 meters (213 feet), unless the applicant demonstrates to the satisfaction of the Executive Officer that a greater height is necessary.

(d) Requirements

The Executive Officer shall deny the permit to construct a new, relocated or modified permit unit if emissions of any carcinogenic air contaminant may occur, unless the applicant has substantiated that the cumulative impact of emissions from the new, relocated or modified permit unit and all other permit units located within a radius of 100 meters owned or operated by the applicant for which applications were submitted on or after June 1, 1990 will not result in any of the following:

(1) a maximum individual cancer risk greater than one in one million (1×10^{-6}) at any receptor location, if the permit unit is constructed without T-BACT;

(2) a maximum individual cancer risk greater than ten in one million (1×10^{-5}) at any receptor location, if the permit unit is constructed with T-BACT;

(3) greater than 0.5 excess cancer cases in the population subject to a risk of greater than one in one million (1×10^{-6}).

The maximum individual cancer risk may not exceed 1/70 of the maximum allowable risk specified in (d)(1) or (d)(2) in any one year at receptor locations in residential areas.

(e) Risk Assessment Procedures

The Executive Officer shall periodically publish procedures for determining risks under this rule. To the extent possible, the procedures will be consistent with the policies and procedures of the California Department of Health Services. Such procedures shall specify:

(1) Upper bound estimates of carcinogenic potency that shall be used in evaluating risks;

(2) Compounds that must be subject to a multiple pathway risk assessment. A compound is subject to multiple pathway analysis if the Executive Officer determines that it may reasonably be expected to cause cancer risk through ingestion exposure, if it is expected to deposit and persist in the environment after emission, and if a quantitative oral potency estimate has been derived for the compound;

(3) Health protective assumptions that shall be used in evaluating exposure to compounds from inhalation and other routes of exposure. This will include an assumption of a 70 years period of operation for the sources of carcinogenic air contaminants;

(4) Risk for the potential maximally exposed individual shall be based upon continuous exposure for 70 years in residential areas and health protective estimates of exposure duration in nonresidential areas;

(5) Estimates of pollutant dispersion and risk from a source shall not be based upon stack height in excess of acceptable stack height.

(f) Emissions Calculations

The total carcinogenic emissions for a new, relocated or modified permit unit(s) shall be calculated on an annual basis from permit conditions which directly limit the emissions or, when no such conditions are imposed, from:

(1) the maximum rated capacity; and

(2) the maximum possible annual hours of operation; and

(3) the actual materials processed.

For the purpose of this rule, total carcinogenic emissions from a permit unit(s) shall be calculated and reviewed pursuant to this rule.

(g) Exemptions

(1) The requirements of paragraph (d) shall not apply to:

(A) Any stationary source which is a continuing operation, without modification or change in operating conditions, for which a permit to operate is required solely because of permit renewal or change of ownership; or

(B) Modification or relocation of a permit unit that causes a reduction or no increase in the estimated cancer cases or individual cancer risk at any receptor location.

(C) A permit unit replacing a functio.ally identical permit unit, providing there is no increase in maximum rating or increase in emissions of any carcinogenic air contaminants.

(D) Installation, construction, modification or relocation of a permit unit if the applicant demonstrates that:

(i) a contemporaneous emission reduction in actual emissions of carcinogenic air contaminants from a permit unit or permit units at the stationary source will occur such that the risk at all receptor locations is less than the risk prior to installation, construction, modification or relocation, and

(ii) the emissions reductions necessary to achieve the risk reduction required by this paragraph are permanent, verifiable and enforceable through permit conditions, and

(iii) T-BACT will be used on new equipment that is part of the installation, construction or modification subject to this paragraph.

(E) A publicly owned sewage treatment operation, or a ground water or soil contamination cleanup or remediation operation mandated to maintain or attain compliance with federal, state, or local law or by judicial or administrative agency order, provided that permit units will be constructed using T-BACT if the maximum individual cancer risk is greater than one in one million. The permit to construct shall require such facilities to meet the risk requirements of this rule not later than June 1, 1995.

(2) The provisions of subparagraph (d)(2) shall not apply if the applicant demonstrates the following to the satisfaction of the Executive Officer:

(A) The cumulative impact of emissions from the new, relocated or modified permit unit and all other permit units located within a radius of 100 meters owned or operated by the applicant for which applications were submitted on or after June 1, 1990 will not result in a maximum individual cancer risk greater than 100 in one million (1×10^{-4}) at any receptor location,

(B) The unit will be constructed with T-BACT, and

(C) The applicant has investigated, and will implement to the extent reasonably achievable, all potential methods and processes to reduce or control emissions to levels which would comply with the provisions of subparagraph (d)(2), including but not limited to:

(i) source reduction;
(ii) innovative control technologies;
(iii) material or process substitution; and
(iv) alternate locations within the facility.

The permit to construct shall require compliance with the provisions of subparagraph (d)(2) not later than 5 years after June 1, 1990.

[SIP: Not SIP]

TABLE I
CARCINOGENIC AIR CONTAMINANTS

Substance	CAS Number[a]	Date of Listing
Acetaldehyde	75-07-0	December 7, 1990
Acrylamide	79-06-01	December 7, 1990
Acrylonitrile	107-13-1	December 7, 1990
Inorganic Arsenic	7440-38-2	December 7, 1990
Asbestos	1332-21-4	June 1, 1990
Benzene	71-43-2	June 1, 1990
Benzidene	92-87-5	December 7, 1990
Polynuclear Aromatic Hydrocarbons (PAH)		
Benz(a)anthracene	56-55-3	December 7, 1990
Benzo(a)pyrene	50-32-8	December 7, 1990
Benzo(b)fluoranthene	205-99-2	December 7, 1990
Benzo(k)fluoranthene	207-08-9	December 7, 1990
Chrysene	218-01-9	December 7, 1990
Dibenz(a,h)anthracene	53-70-3	December 7, 1990
Indenopyrene	193-39-5	December 7, 1990
Beryllium	7440-41-7	December 7, 1990
Bis(2-chloroethyl)ether	111-44-4	December 7, 1990
Bis(chloromethyl)ether	542-88-1	December 7, 1990
1,3-Butadiene	106-99-0	December 7, 1990
Cadmium	7440-43-9	June 1, 1990
Carbon Tetrachloride	56-23-5	June 1, 1990
Chlorinated Dioxins and Dibenzofurans (TCDD equivalent)[b]		June 1, 1990
Chloroform	67-66-3	December 7, 1990
Chromium, Hexavalent	7440-47-3	June 1, 1990
3,3-Dichlorobenzidene	91-94-1	December 7, 1990
2,4-Dinitrotoluene	121-14-2	December 7, 1990
1,4-Dioxane	123-91-1	December 7, 1990
Diphenylhydrazine	122-66-7	December 7, 1990
Epichlorohydrin	106-89-8	December 7, 1990

Substance	CAS Number[a]	Date of Listing
Ethylene Dibromide	106-93-4	June 1, 1990
Ethylene Dichloride (1,2 Dichloroethane)	107-06-2	June 1, 1990
Ethylene Oxide	75-21-8	June 1, 1990
Formaldehyde	50-00-0	December 7, 1990
Hexachlorobenzene	118-74-1	December 7, 1990
Hexachlorocyclohexane:		
technical grade	----	December 7, 1990
alpha isomer	319-84-6	December 7, 1990
Methylene Chloride	75-09-2	June 1, 1990
Nickel:		
refinery dust	----	December 7, 1990
subsulfide	0120-35-722	December 7, 1990
N-Nitroso Compounds:		
Dimethylnitrosamine	62-75-9	December 7, 1990
Diethylnitrosamine	55-18-5	December 7, 1990
Dibutylnitrosamine	924-16-3	December 7, 1990
N-nitrososopyrrolidine	930-55-2	December 7, 1990
N-nitrosodiphenylamine	86-30-6	December 7, 1990
N-nitroso-N-ethylurea	759-73-9	December 7, 1990
N-nitroso-N-methylurea	684-93-5	December 7, 1990
Polychlorinated biphenyls	1336-36-3	December 7, 1990
Trichloroethylene	79-01-6	December 7, 1990
2,4,6-Trichlorophenol	88-06-2	December 7, 1990
Vinyl chloride	75-01-4	December 7, 1990

[a]Chemical Abstracts Service Number

[b]Chlorinated dioxins and furans comprise a number of homologue groups (tetra, penta, etc.) and each homologue group includes a number of isomers. TCDD equivalents shall be calculated according to the method recommended by the California Department of Health Services (DHS) according to "Scenario 4" presented in the Technical Support Document for the "Report on Chlorinated Dioxins and Dibenzofurans" (Part B) prepared by the staff of the DHS.